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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,151	09/15/2000	Bradley J. Swearingen	1302-1001	2668

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EXAMINER
SUBRAMANIAN, NARAYANSWAMY

ART UNIT	PAPER NUMBER
3691	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/663,151	SWEARINGEN ET AL.
	Examiner	Art Unit	
	Narayanswamy Subramanian	3691	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 February 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>67-114</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>67-114</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   In view of the appeal brief filed on filed on November 27, 2007, PROSECUTION IS

HEREBY REOPENED. The rejections cited are as stated below:

        To avoid abandonment of the application, appellant must exercise one of the following

two options:

        (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37

CFR 1.113 (if this Office action is final); or,

        (2) request reinstatement of the appeal.

        If reinstatement of the appeal is requested, such request must be accompanied by a

supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or

other evidence are permitted. See 37 CFR 1.193(b)(2). Claims 67-114 are pending and have been

examined. The rejections and response to arguments are given below.

        /Alexander Kalinowski/

        Supervisory Patent Examiner, Art Unit 3691

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

        Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
        matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions
        and requirements of this title.

3.   Claims 67-114 are rejected under 35 U.S.C. § 101 because the claimed invention is

directed to non-statutory Subject matter.

        35 USC 101 requires that in order to be patentable the invention must be a "new and

useful process, machine, manufacture, or composition of matter, or any new and useful

improvement thereof" (emphasis added).

Claims 67-114 are drawn to "a computer readable medium having a sequence of instructions, a system and a method for enabling a trade in a user selected user preferred security, the method comprising: identifying user preferred securities from a plurality of securities based upon at least two user specific criteria including at least one criterion related to pricing; generating a graph in which each of the user preferred securities is represented and graphically differentiated from each of the other user preferred securities based upon the values of at least three user specific parameters associated with each of the user preferred securities; receiving a user selection of one of the user preferred securities represented on the graph; associating order parameters with the user selected user preferred security; and sending an order to execute a trade in, the user selected user preferred security according to the order parameters". As such the claimed invention is directed to a judicial exception to 35 U.S.C. 101 (i.e., an abstract idea, natural phenomenon, or law of nature) and is not directed to a practical application of such judicial exception because the claims do not require any physical transformation and the invention as claimed does not produce a useful, concrete, and tangible result.

The Court of Appeals for the Federal Circuit issued opinions in *State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998)* and *AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999).* These decisions explained that, to be eligible for patent protection, the claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601 02.* To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways: (a) The claimed invention "transforms" an article or

physical object to a different state or thing. (b) The claimed invention otherwise produces a

useful, concrete and tangible result, based on the factors discussed below.

The USPTO's official interpretation of the utility requirement provides that the utility of

an invention has to be (i) specific, (ii) substantial and (iii) credible. See MPEP § 2107. The

computer readable medium claims 67-82 and the system claims 83-98 of the claimed invention is

inoperative and therefore lacks utility as discussed below.

For an invention to produce a "concrete" result, the process must have a result that can be

substantially repeatable or the process must substantially produce the same result again. *In re*

Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result

produced by the claimed invention is "irreproducible" claim should be rejected under section

101). The opposite of "concrete" is unrepeatable or unpredictable. The steps of the method are

not described in sufficient specific detail to guarantee that results will be concrete. For instance

one of the intermediate steps includes receiving a user selection of one of the user preferred

securities represented on the graph. However it is not clear how a certain graph will result in the

same selection of securities by a user. Since there is no guarantee that the user selection will be

identical for all iterations of the method, this step does not necessarily lead to concrete results.

4.   Claims 67-82 of the disclosed invention is inoperative and therefore lacks utility. Claims

67-82 are drawn to "a computer readable medium having a sequence of instructions which, when

executed by a processing entity, effectuates a trade in a user selected user preferred security, the

computer readable medium comprising: a code segment for identifying user preferred securities

from a plurality of securities based upon at least two user specific criteria including at least one

criterion related to pricing; a code segment for generating a graph in which each of the user

preferred securities is represented and graphically differentiated from each of the other user

preferred securities based upon the values of at least three user specific parameters associated

with each of the user preferred securities; a code segment for receiving a user selection of one of

the user preferred securities represented on the graph; a code segment for associating order

parameters with the user selected user preferred security; and a code segment for sending an

order to execute a trade in the user selected user preferred security according to the order

parameters". The computer readable medium is interpreted broadly to include an intangible

medium. Claims 67-82 merely recite elements of a computer readable medium ("code segments"

correspond to software program elements and not tangible hardware components) without

showing any ability to realize functionality of the recited elements (i.e. functional descriptive

material per se) and therefore is rendered inoperative lacking any utility. Note that a computer

(or software program) code cannot by itself perform the underlying function until it is loaded on

some computer readable memory and accessed by the computer (or a processor). Functional

descriptive material, per se, is not statutory. This is exemplified in *In re Warmerdam 31*

USPQ2d 1754 where the rejection of a claim to a disembodied data structure was affirmed. Thus

a claim to a data structure, per se, or other functional descriptive material, including computer

programs, per se, is not patent eligible subject matter.

Similarly Claims 83-98 of the disclosed invention is inoperative and therefore lacks

utility. Claims 83-98 are drawn to "system for enabling a trade in a user selected user preferred

security, the system comprising: means for identifying user preferred securities from a plurality

of securities based upon at least two user specific criteria including at least one criterion related

to pricing; means for generating a graph in which each of the user preferred securities is

represented and graphically differentiated from each of the other user preferred securities based upon the values of at least three user specific parameters associated with each of the user preferred securities; means for receiving a user selection of one of the user preferred securities represented on the graph; means for associating order parameters with the user selected user preferred security; and means for sending an order to execute a trade in the user selected user preferred security according to the order parameters". Claims 67-82 merely recite elements of a system ("means for" are broadly interpreted to correspond to software program elements and not tangible hardware components) without showing any ability to realize functionality of the recited elements (i.e. functional descriptive material per se) and therefore is rendered inoperative lacking any utility. Note that a computer (or software program) code cannot by itself perform the underlying function until it is loaded on some computer readable memory and accessed by the computer (or a processor). Functional descriptive material, per se, is not statutory. This is exemplified in *In re Warmerdam 31 USPQ2d 1754* where the rejection of a claim to a disembodied data structure was affirmed. Thus a claim to a data structure, per se, or other functional descriptive material, including computer programs, per se, is not patent eligible subject matter.

Claims 99-114 are drawn to "a method for enabling a trade in a user selected user preferred security, the method comprising: identifying user preferred securities from a plurality of securities based upon at least two user specific criteria including at least one criterion related to pricing; generating a graph in which each of the user preferred securities is represented and graphically differentiated from each of the other user preferred securities based upon the values of at least three user specific parameters associated with each of the user preferred securities;

receiving a user selection of one of the user preferred securities represented on the graph;

associating order parameters with the user selected user preferred security; and sending an order

to execute a trade in, the user selected user preferred security according to the order parameters".

It is not clear as to which statutory class the claimed invention of claims 99-114 belongs. The

claimed invention does not fall in the process category for the following reason. Quoting from *In*

re Comiskey (*No. 06-1286, Federal Circuit*) "The Supreme Court has recognized only two

instances in which such a method may qualify as a section 101 process: when the process 'either

[1] was tied to a particular apparatus or [2] operated to change materials to a 'different state or

thing.'' In *Diehr*, the Supreme Court confirmed that a process claim reciting an algorithm could

state statutory subject matter if it: (1) is tied to a machine or (2) creates or involves a composition

of matter or manufacture.12 450 U.S. at 184. There, in the context of a process claim for curing

rubber that recited an algorithm, the Court concluded that "[t]ransformation and reduction of an

article 'to a different state or thing' is the clue to the patentability of a process claim that does not

include particular machines." Id. (quoting *Benson*, *409 U.S. at 70*);13 see also *In re Schrader, 22*

F.3d 290, 295 (Fed. Cir. 1994) (holding when a claim does not invoke a machine, "§ 101

requires some kind of transformation or reduction of subject matter"). Thus, a claim that involves

both a mental process and one of the other categories of statutory subject matter (i.e., a machine,

manufacture, or composition) may be patentable under § 101. However, mental processes—or

processes of human thinking—standing alone are not patentable even if they have practical

application. The Supreme Court has stated that "[p]henomena of nature, though just discovered,

mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools

of scientific and technological work." *Benson, 409 U.S.* at 67 (emphasis added). In *Flook* the

patentee argued that his claims did not seek to patent an abstract idea (an algorithm) because they were limited to a practical application of that idea—updating "alarm limits" for catalytic chemical conversion of hydrocarbons. 437 U.S. at 586, 589-90. The Court rejected the notion that mere recitation of a practical application of an abstract idea makes it patentable, concluding that "[a] competent draftsman could attach some form of post-solution activity to almost any mathematical formula." Id. at 590. Since all other features of the process were well-known, including "the use of computers for 'automatic monitoring-alarming,'" the Court construed the application as "simply provid[ing] a new and presumably better method for calculating alarm limit values." Id. at 594-95. The 14 See AT&T, 172 F.3d at 1355, 1358 (holding patentable "a process that uses the Boolean principle in order to determine the value of the PIC indicator" and that "require[d] the use of switches and computers"); *State Street Bank, 149 F.3d at 1373* ("[W]e hold that the transformation of data . . . by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm." (emphases added)); *Alappat, 33 F.3d at 1544* ("This is not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a useful, concrete, and tangible result." (emphases added)); *Arrhythmia Research Tech., Inc. v. Corazonix Corp., 958 F.2d 1053, 1058-59 (Fed. Cir. 1992)* (holding patentable a method for analyzing electrocardiograph signals for the detection of a specific heart condition that used "electronic equipment programmed to perform mathematical computation"). Court held the application unpatentable because "if a claim [as a whole] is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." 437 U.S. at 595 (quoting *In re Richman, 563 F.2d*

1026, 1030 (CCPA 1977). Following the lead of the Supreme Court, this court and our

predecessor court have refused to find processes patentable when they merely claimed a mental

process standing alone and untied to another category of statutory subject matter even when a

practical application was claimed. In Schrader we held unpatentable a "method constitut[ing] a

novel way of conducting auctions" by allowing competitive bidding on a plurality of related

items. 22 F.3d at 291. In doing so, we rejected the patentee's argument that the process used a

machine. Two of the alleged machines—a "display" in the front of the auction room and "a

closed-circuit television system" for bidders in different cities—were not claimed by the patent,

and the third—a "record" in which bids could be entered—could be "a piece of paper or a

chalkboard." Id. at 293-94. We therefore concluded that the patent impermissibly claimed

unpatentable subject matter. Similarly, in *In re Warmerdam,33 F.3d 1354 (Fed. Cir. 1994)*, we

held unpatentable a process for controlling objects so as to avoid collisions because the key steps

of "locating a medial axis" and "creating a bubble hierarchy" described "nothing more than the

manipulation of basic mathematical constructs, the paradigmatic 'abstract idea.'" Id. at 1360. A

machine was not required, id. at 1358, nor was there any indication that the process operated on a

manufacture or composition of matter. Decisions of our predecessor court are in accord. *In re*

Meyer, 688 F.2d 789, 796 (CCPA 1982), held that "a mental process that a neurologist should

follow" was not patentable because it was "not limited to any otherwise statutory process,

machine, manufacture, or composition of matter." Id. at 795. Similarly, *In re Maucorps, 609*

F.2d 481 (CCPA 1979), held that an invention "[u]ltimately . . . directed toward optimizing the

organization of sales representatives in a business" was unpatentable. Id. at 482, 486. See also

Alappat, 33 F.3d at 1541 ("*Maucorps* dealt with a business method for deciding how salesmen

should best handle respective customers and Meyer involved a 'system' for aiding a neurologist

in diagnosing patients. Clearly, neither of the alleged 'inventions' in those cases falls within any

§ 101 category."). The steps of the method are untied to another category of statutory subject

matter and hence the claimed invention does not qualify as a process under 35 U.S.C 101.

Response to Arguments

5.   Applicant's arguments with respect to pending claims 67-114 have been considered but

are moot in view of the new ground(s) of rejection.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dr. Narayanswamy Subramanian whose telephone number is

(571) 272-6751. The examiner can normally be reached Monday-Thursday from 8:30 AM to

7:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Alexander Kalinowski can be reached at (571) 272-6771. The fax number for Formal

or Official faxes and Draft to the Patent Office is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Narayanswamy Subramanian/
Primary Examiner

Art Unit 3691

March 10, 2008

/Alexander Kalinowski/

Supervisory Patent Examiner, Art Unit 3691